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DEPARTMENT OF NATURAL RESOURCES

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January 4, 2011

Certified Return Receipt
7005 2570 0000 4801 6164

Howard Truman
389 West 100 South
P.O. Box 443
Enterprise, Utah 84725-0443

Subject: Requirements for Reclamation Cost Estimate, Howard Truman, Courgraph Mine, S/001/0018, Beaver County, Utah

Dear Mr. Truman:

Every mine operator is required to post a reclamation surety in an amount reflecting the cost the Division or another third party would incur to reclaim the mine site. For small mines the reclamation cost estimate can be based on site-specific calculations or average dollar per acre costs.

Site-specific calculations are based on direct costs, such as demolition, earthwork, and revegetation, and on indirect costs, such as bond administration, re-engineering, contingencies, and escalation to cover inflation.

The attached sheets detail the information needed by the Division to calculate a reclamation surety. They also contain the factors generally used for determining indirect costs.

If you desire the Division to calculate the reclamation surety amount for the Courgraph mine, please submit the required information.

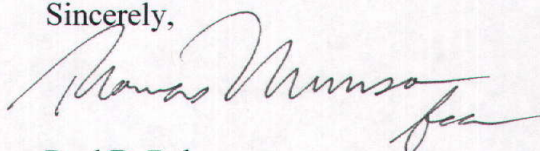
The reclamation surety amount can also be determined using average costs per acre. These costs were determined by averaging the calculated reclamation costs for several large mines as follows. The Division assumes that small mines can be reclaimed with one piece of equipment and that there would be no demolition.

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S/001/0018
January 4, 2011

3-year escalation			
Item	Qty	Unit Cost	Total Cost
1st Acre Disturbance	1	\$7,400.00	\$7,400.00
Add'l Acres Disturbance	0	\$4,400.00	\$0.00
TOTAL			\$7,400.00
5-year escalation			
Item	Qty	Unit Cost	Total Cost
1st Acre Disturbance	1	\$7,500.00	\$7,500.00
Add'l Acres Disturbance	0	\$4,400.00	\$0.00
TOTAL			\$7,500.00

If you have any questions concerning this letter, please contact Wayne Western at (801) 538-5263.

Sincerely,



Paul B. Baker
Mining Program Manager

PBB:tm:pb

cc: SITLA

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Data Needed for Bond Calculations

Direct Costs

Demolition

The demolitions costs are based on published rates, usually R.S. Means. The demolition cost must also include debris disposal and does not include salvage values.

Data for Demolition:

1. Description of facilities to be demolished that includes the volume and material type. A complete list of all structures to be demolished or removed from the site must be included in the reclamation plan. That list must include the following:
 - a. The dimensions or volume of each structure.
 - b. Type of construction material.
 - c. Type and dimensions of footers, foundations and floors (state if structure has reinforced or non-reinforced concrete).
 - d. Distance and time to haul debris to disposal facility.
 - e. Disposal fees for landfills.
 - f. Cost for on site disposal when allowed. This cost may be included in the earthwork calculations section.
 - g. Asphalt may be disposed of on site if the permittee has been granted a permit by rule from the Department of Environmental Quality, Division of Solid and Hazardous Waste. (A letter from that Division must be included in the mine plan.)
 - h. Demolition activities should be classified according to demolition costs listed in the Means publications. Some exception such as concrete demolition will be allowed.
 - i. Whenever possible, use the total cost listed in the Means publications. The total costs include overhead and profit. Those two items will not be included in the indirect costs.
2. Disposal methods, haul distance and disposal fees etc.

Assumptions about debris disposal:

- a. No salvage value for any reclamation activity.
- b. Steel can be disposed of at a scrap dealership with no disposal fee. Transportation cost must be included in the disposal costs.
- c. Disposal fees are highly localized. The Division allows the permittee to use local landfill rates. The permittee has the responsibility to document local landfill fees.

Earthwork Costs

The material handling plan must be included in the reclamation plan and include:

- a. Calculations for the volumes of materials that will be handled. There are several methods that can be used to calculate volumes including comparison of operational and reclamation contours, cross-sections, geometric shapes and computer programs. Regardless of the method the permittee must show the location of each material source and show where the material will be placed. The permittee must also state what swell and shrinkage factors were used.
- b. The haul distances and grades must be shown. The haul distances are calculated from either the centroid of the material source to the centroid of the fill location or from loading point to unloading point. The grade must include the slope angle and the road type. The road type is needed to determine the rolling resistance, which is needed for equipment productivity.
- c. The type and characteristic of the material to be hauled. This information is needed for equipment selection. For example scrapers cannot be used to transport boulders but trucks can.

Equipment Selection and Productivity: Select the equipment to be used and its productivity as follows:

- a. The permittee must select the equipment to be used for each reclamation activity listed in the material handling plan. Proper equipment selection will greatly reduce reclamation costs. The Division encourages the permittee to carefully make the equipment selection. The Division recommends that the permittee use Caterpillar equipment when possible because productivity can be easily calculated from the Caterpillar Performance Handbook.

- b. Calculate the equipment's productivity. The main source of equipment productivity is the Caterpillar Performance Handbook. When calculating equipment productivity the permittee should use the following site factors:
1. Operator factor is average.
 2. Job efficiency is 50 min/hr.
 3. Material factors as listed in the material handling plan.
 4. Grades as listed in the material handling plan.
 5. Bucket fill factor from material handling plan (type of material).
 6. Average cycle time.
 7. Average dump time.
 8. Site elevation.

Because seed prices fluctuate widely from year to year, the Division usually assumes standard rates for revegetation. These are \$1000 for mobilization/demobilization and \$6000 per acre. (After a partial bond release where the Division retains part of the surety for vegetation establishment, the Division generally keeps \$1000 because of the need to include surface preparation.)

Indirect Costs

Once the direct costs are calculated, indirect costs are added. The following rates are standard:

Mob/Demob	10%
Contingency	5%
Re-engineering/administration	2.5%
Main Office Expense	6.8%
Project Management Fee	2.5%
Total	26.8%

The cost for mobilization/demobilization is calculated on a site-specific basis depending on the distance and type to roads to the nearest city where the proper rental equipment is

available. The average is approximately \$3000 per piece of equipment, but it can be more or less than this.

The escalation rate is calculated annually based on a three-year average of a national index of construction costs. The rate for 2010 through March 2011 is 0.5 percent. The escalation figure is applied after all other costs have been added in. For small mines, the cost estimate can be escalated either three or five years according to the following formula:

$$(\text{Direct and Indirect Costs}) \times (1 + \text{escalation rate})^{\text{number of years to be escalated (3 or 5)}}$$